



Picture courtesy: Arsenic Knowledge & Action Network

# Arsenic

**Knowledge and Action Network**

**Newsletter**  
Volume 8

*April 2017*

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## **About the cover picture**

*Locally developed pond water based filter in a village in Titabar, Jorhat, Assam*

## **Arsenic Knowledge and Action Network**

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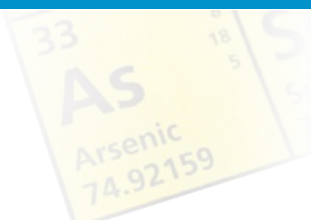
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Dear **Network Collaborators**,

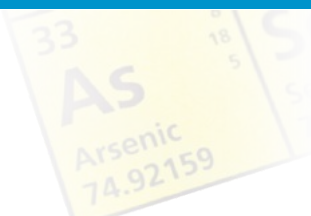
It is with great joy that we would like to share the increasing updates on efforts being carried out to mitigate the problem of Arsenic in our 8th Volume of the newsletter. The quarter has seen so many surges in activities, to start with the 2017 Budget of Government of India, which declared that 28,000 habitations affected, by Arsenic and Fluoride will be provided safe drinking water. After the declaration, National Water Quality Mission of Government of India launched a Sub-mission on Arsenic and Fluoride on the occasion of the World Water Day on 21st March 2017. These changes in the National agendas we attribute to the growing consciousness of the water quality challenges and its health implications across different sectors and regions. While the missions have been launched and the goal is 2020, the next task would be to bridge the interdisciplinary and sector wide gaps to create holistic solutions. Through the dedicated efforts of different groups and stakeholders across Assam and Bihar this process has begun to spring at the grassroots and at institutions.

The past few months have also seen an increase in building connections with existing programs of other civil society organisations including that of research organisations. At the next level, what we feel essential is the criticality of interlinkages among water, health and nutrition, towards which the network has begun to make efforts in partnering with organisations working on health and nutrition. The same has led to building perspectives for such organisations on the issue of water quality in general and arsenic in particular. The Arsenic Knowledge and Action Network was also invited to be a part of the Conclave on Aquifer Mapping and GroundWater Management organised by CGWB in New Delhi and also at the Workshop on Arsenic remediation in Ganges basin where the network presented its experience and learnings.

At the level of activities, we have seen field level discussions and university level seminars in Bihar, health awareness camp in Assam and preliminary activities picking up pace in West Bengal. Field level discussions have triggered the perceptions of the community on safe water while health awareness camp in Assam witnessed participation of a good number of people despite a district wide bandh (strike) on the day of the camp. Such responses by the community, as we feel, are the beginning steps to take things forward.

We hope you enjoy reading this volume of the newsletter.

Wish you all a happy reading!



## SHARE SPACE

(GUEST ARTICLES)

### **Clear Water is not always clean: Challenges of Sustainable Access to clean & safe water**

**Dr Anju Helen Bara**

*Central University of South Bihar, Gaya*

Clean and safe drinking water is a basic necessity for good health and survival of human beings. The eastern and north-eastern region of India, particularly states of Bihar, West Bengal and Assam are facing tremendous challenge in ensuring access to safe and clean water to the people. The region is worse affected by fluoride, arsenic and iron contamination. There are various challenges to the access of safe and clean water to people.

First challenge is the mitigation process and providing technological solution to reduce the exposure to the contaminated water. There has to be an appropriate technology, which is in amalgamation with indigenous techniques and community knowledge. Second challenge is the operation and maintenance of the arsenic water treatment plants. In case of Bihar, the government has installed the community water treatment systems. However due to poor maintenance and lack of repair these treatment units are not functioning. It can be resolved by giving the ownership of these plants to the community. Third challenge is the attitudes and behavior of people towards water. Millions of people are exposed to arsenic through daily water intake, food chain and dietary sources. Hence, the arsenic mitigation needs to focus on 'dietary' and 'nutritional' components. Also the biggest challenge is to make people aware about 'clean and safe water'. People's notion about clear water as clean water is erroneous. This can be achieved by creating awareness and dissemination of information. Next challenge is the health and social impact of arsenicosis. Due to lack of knowledge the skin manifestations in arsenicosis patients often become the reason for their exclusion.

There has to be an integrated approach for sustainable access to clean and safe water supply. It requires understanding of the social, economic and ecological dimensions of water resource management. There has to be a convergence of all the different stakeholders and knowledge sharing for the larger benefit of the society. There is a need for more research on social and economic aspects of arsenic and arsenic mitigation.

## TECH- KNOW CORNER

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### **Capacity building workshop**

*1st- 4th March 2017, Bihar*

Arsenic Knowledge and Action Network supported two individuals from Kolkata and Assam for their participation in a Capacity building Workshop on household level water treatment technologies. The three-day workshop and training program was jointly organised by CAWST and the Sehgal Foundation at Samastipur, Bihar. It was participatory by nature and the participants were drawn into the program through a continuous series of activities and games.

[Read here](#)

## NETWORK SPEAKS

*(Events)*

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### **Knowledge Exchange session**

*18th Oct 2016, IIT Mumbai*

Arsenic Knowledge and Action Network presented about their ongoing work at a Knowledge Exchange Session on water technologies held at IIT Mumbai Tata Centre for Technology & Design. Tata Trusts, Arghyam and Fluoride Knowledge and Action Network attended the session.

[Read here](#)

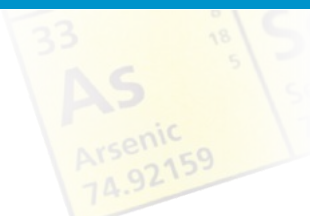
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### **Health Assesment cum Training Camp**

*19th-20th Oct, 2016, Titabar, Jorhat, Assam*

Based on learnings and experiences from prior engagements of Arsenic Knowledge and Action Network in Assam , a health assessment cum training camp was organised on Identification of patients with arsenic induced toxicity on 19th and 20th October 2016 in collaboration with Dept of Health, Jorhat; CSIR-NEIST (former Regional Research Laboratory), Jorhat and Kachari Gaon Juba Sangha, Titabar. The camp was a result of the demand from the community in arsenic affected region of Titabar in Jorhat. The diverse participation that the camp witnessed speaks about the willingness of people to engage with local action on the ground. The camp has paved the way for joint action on the ground including different stakeholders concerned with safe water issues.

[Read here](#)



## **State Level meeting on reporting of research outcomes**

*15th Nov 2016, Kolkata*

Arsenic Knowledge and Action Network was invited to participate in a State level meeting on reporting of outcomes of Research Project titled: "Awareness generation and epidemiological study of disease Prevalence, in arsenic affected Areas of District Malda, West Bengal", implemented by DNGM Research Foundation, funded By UNICEF. The meeting was organized at the Department of Health, Govt. of West Bengal. DNGM Research Foundation carried out the research project with stakeholders - Dept of Health, PHED, P & RD, Govt. of West Bengal, Members of Arsenic Task Force, Govt. of West Bengal, UNICEF, West Bengal and arsenic experts in the state. Prevention and treatment of Arsenicosis, Surveillance and prevalence determination in the affected communities and blocks of Malda and Awareness generation in communities and Training of Medical officers and Paramedical workers were the key activities of the project. The project is supportive of the activities of State Program for Prevention & Control of arsenicosis (SPPCA) carried out by the Health Department.

### **Report**

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## **Conclave on Aquifer Mapping and Ground Water Management**

*Bhujal Manthan*

*29th Nov 2016, New Delhi*

Arsenic Knowledge and Action Network was invited to attend Bhujal Manthan 2016 - a Conclave on Aquifer Mapping and Ground Water Management organised by Ministry of Water Resources (MoWR) and Central Ground Water Board (CGWB) at New Delhi. The proceedings of the conclave include a working paper on the network approach to the wicked problems of water quality.

### **Working Paper**

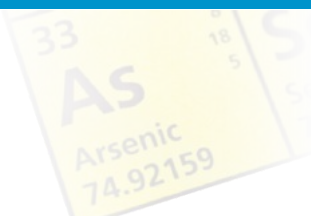
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## **Partners Meet for a Multi-Sector Integrated Programme**

*1st-2nd March 2017, New Delhi*

Arsenic Knowledge and Action Network was invited to participate as participants of a panel on 'Learnings from global/national experiences in deliberating ideas for addressing WASH and infections pathway' in a two day Partner's Meet organised by UNICEF in the backdrop of its Multi-Sector Integrated Programme called Swabhimaan. Swabhimaan tests the delivery of an integrated package of 18 essential nutrition (specific and sensitive) interventions via women collectives to improve the nutrition status of adolescent girls' and women in Bihar, Chattisgarh and Odisha. The network's representative delivered a presentation on Pathways for addressing the challenge of arsenic contamination: a health perspective under the theme of linking and addressing chemical toxicity in nutrition programmes.

### **Presentation**



## **Research Collaboration for addressing arsenic contamination**

*4th March 2017, Kolkata*

SaciWATERS in association with Delft University of Technology, Both ENDS and local NGO partner viz The Researcher is working in a project titled "Shifting grounds: Institutional transformation, enhancing knowledge and capacity to manage groundwater security in peri-urban Ganges delta systems". Arsenic Knowledge and Action Network, in its efforts to leverage existing research projects having arsenic affected regions as their research sites, has entered into a collaboration with the project to understand and combat the challenges of Arsenic contamination in groundwater.

[Read here](#)

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## **Workshop on Arsenic Problems in groundwater & its remediation in Ganga Basin**

*7th March 2017, New Delhi*

The Central Government is planning to launch a nationwide movement to make people aware of the increasing arsenic problem in groundwater in and around the Ganga Basin. Hence, Ministry of Water Resources and CGWB in New Delhi, which witnessed a participation of close to 300 experts from India, held a Workshop on Arsenic Problems in ground water & its remediation in Ganga Basin. Arsenic Knowledge and Action Network was among the selected few to be invited to share their experiences of working on the issue of arsenic contamination in water over the last few years.

[Presentation](#)

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## **Seminar on Development Alternatives**

*16th March 2017, Central University of South Bihar, Gaya*

Arsenic Knowledge and Action Network was invited to deliver a talk on Development Alternatives : Issues and Challenges in engaging community and institutions in accessing safe drinking water in Bihar for M.A Development students at Central University of South Bihar, Gaya.

[Presentation](#)

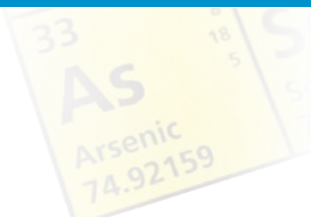
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## **Triggering behavioural changes among community for arsenic mitigation**

*20th-26th March 2017, Buxar, Bihar*

Arsenic Knowledge and Action Network engaged with the arsenic affected communities in the villages of Simri block, Buxar in Bihar viz. through a two-day health camp to identify patients affected with arsenic toxicity. Following this, FGD's and personal interactions were held so as to gauge the understanding and perception of the communities about potential solutions.

[Report](#)



## FOOD FOR THOUGHT

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### Visual screening cues for arsenic

Sand and insects in water is easily seen, dissolved solids in water makes it murky; hard water feels different and has impact on cooking and washing, but what about those contaminants that are not visible at all?

Bacteriological contamination is the largest health risk within drinking water and it is not visible. Beyond bacteriological contamination are several chemical contaminants that are also a risk to health and are also not visible. Nitrates, fluoride, arsenic, pesticides are among the top contenders in this list (Read more about fluoride detection [here](#)).

[Read here](#)

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### Super-foods that protect against Arsenic

Selected spices, leaves, fruits can help reduce/remove arsenic toxicity from the body. they are most effective when taken in the right form and quantities. Dr Arun Kumar from Mahavir Cancer Research and Training Centre, Patna, and Dr. Kunal Kanti Majumdar from KPC Medical College & Hospital, Jadavpur, Kolkata, share results from their research on food to combat arsenic:

[Read here](#)

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### Arsenic unwanted in rice!!!


The use of arsenic contaminated groundwater for irrigation purpose in crop fields elevates arsenic concentration in surface soil and in the plants grown in arsenic contaminated areas. The arsenic concentrations in the edible parts of a plant depend on the availability of the soil arsenic and the accumulation and translocation ability of a plant.

In many arsenic-affected countries, including Bangladesh and India, rice is reported to be one of the major sources of arsenic contamination.

[Read here](#)



## NETWORK PROPELLERS

 The Researcher for Socio-economic study: [The Researcher](#), through its association with the existing project with SasiWATers [Shifting Grounds](#) is one of the first efforts of the Arsenic Knowledge and Action Network to build convergence with existing projects on groundwater management and its security with a focus on addressing the issue of consuming arsenic laced water.

## INFO- EXCHANGE

### Arsenic Risks: Access to safe drinking water

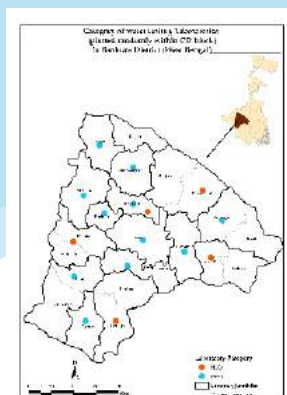
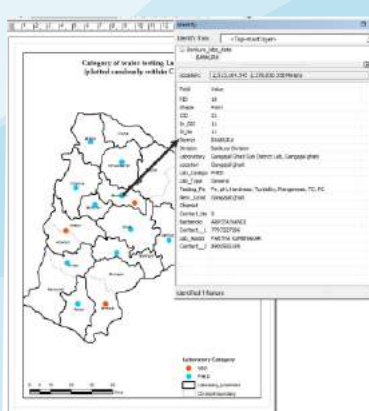
An article on Access to safe drinking water: Pathways to address the challenge of arsenic contamination featured in a development and environment magazine viz. Geography and You

[Read here](#)

### Block level visual plotting of water quality labs with their jurisdiction

The laboratory jurisdiction map is an effort to simplify and visualize the available water testing laboratory related data and information. The spatial map of Bankura district, West Bengal shows the current jurisdiction of the respective randomly plotted laboratories at block level. This will be helpful for users to pick the laboratory for sample testing based on their own location.

[Read here](#)



## Health Awareness Camp, Titabar, Jorhat, Assam Oct 2016



Team, Health Awareness Camp, Titabar



SDO (Civil), Titabar drawing the attention of participants for the issue of arsenic in water



Dr Kunal Kanti Majumdar sharing about arsenicosis



Participatory planning for arsenic mitigation



Hoarding for information on the health camp in Titabar



Group Discussion on approaches to arsenic mitigation

## Health Awareness Camp, Simri, Buxar, Bihar March 2017



FGD with villagers in Simri block, Buxar (Bihar)



Water sample testing at the camp



FGD with women in the village about their perception of safe water



Health Camp in Simri, Buxar (Bihar)



Doctors advice to patients exposed to arsenic toxicity



Sharing experiences of arsenic exposure

# SUPPORT US

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We at Arsenic Knowledge and Action Network are creating a comprehensive review of the work done on water quality and also a visual data map. We request individuals and organisations to send any kind of data or reports related to water quality issues. These may be Research Studies, Case Studies, Papers, Presentations or Pictorial Depictions with date and region clearly mentioned. You can mail your report or data in PDF, Doc, PPT, or JPEG, etc. to [manish@saciwaters.org](mailto:manish@saciwaters.org) or [safa@saciwaters.org](mailto:safa@saciwaters.org) or to our office's postal address.

## SECRETARIAT

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